What is Claimed is:

1. A field emission display comprising a cathode array, the cathode array including:

a cathode electrode formed on a substrate;

insulating layers and carbon nanotube films for use as emitter electrodes formed alternately on the cathode electrode; and,

a gate electrode formed on the insulating layer.

2. A field emission display as claimed in claim 1, wherein the insulating layer is a coat of glass paste containing photoresist with a thickness of 0.5 ~ 50μm.

3. A field emission display as claimed in claim 1, wherein the gate electrode is a coat of metal sol solution with a 10 ~ 200Å grain size containing photoresist.

4. A field emission display as claimed in claim 3, wherein the gate electrode is formed of at least one of Cr, Ni, Mo, Cu, Pt, Ag.

5. A field emission display as claimed in claim 3, wherein the gate electrode has a film thickness of 1000 ~ 10,000Å.

6. A field emission display as claimed in claim 1, wherein the carbon nanotube film is formed by chemical vapor deposition by using a microwave in a range of 2 ~ 5GHz.

7. A field emission display as claimed in claim 1, wherein the carbon nanotube film has

a thickness of 0.5 – 50μm.

8. A method for fabricating a field emission display, comprising the steps of:

(1) forming a cathode electrode, an insulating layer, and a gate electrode on a substrate in succession;

(2) etching the gate electrode and the insulating layer into a cathode array pattern, to form an emitter region;

(3) forming a sacrificial layer on the gate electrode which is not etched;

(4) depositing a carbon nanotube film on the cathode electrode in the emitter region, to form an emitter: and,

(5) etching the sacrificial layer for removing the carbon nanotube formed on the sacrificial layer, to form a cathode array.

9. A method as claimed in claim 8, further comprising the step of attaching and bonding the cathode array on the anode substrate having fluorescent material coated thereon with a desired gap provided between the cathode array and the anode substrate by using a spacer, after step (5).

10. A method as claimed in claim 8, wherein the substep of forming the insulating film in the step (1) includes the steps of;

screen printing glass paste containing photoresist on the cathode electrode, and patterning the glass paste by exposure and development, and

heat treating the glass paste in a furnace in a mixture atmosphere of at least one of nitrogen, argon, hydrogen, or in a vacuum chamber.

11. A method as claimed in claim 8, wherein the substep of forming the gate electrode in the step (1) includes the steps of:

coating metal sol solution with a grain size 10 ~ 200Å containing photoresist on the insulating layer, exposing and developing the metal sol, and

heat treating the metal sol in a furnace in a mixture atmosphere of at least one of nitrogen, and argon, or in a vacuum chamber, at 200 ~ 500°C.

12. A method as claimed in claim 8, wherein the step (4) includes the step of;

chemical vapor depositing the carbon nanotube film in the emitter region by using a microwave with a 2 - 5GHz wavelength.

13. A method as claimed in claim 8, wherein the step (4) includes the step of using vaporized gas having argon or methane mixed therewith.

14. A method for fabricating a field emission display, comprising the steps of:

(1) forming a cathode electrode, an insulating layer, a gate electrode, and a sacrificial layer on a substrate in succession;

(2) etching the sacrificial layer, the gate electrode, and the insulating layer into a cathode array pattern, to form an emitter region;

(3) forming a carbon nanotube film as an emitter on the cathode electrode in an etched emitter region; and,

(4) etching the sacrificial layer not etched in the step (2) for removing the carbon nanotube formed on the sacrificial layer, to form a cathode array.

15. A method as claimed in claim 14, further comprising the step of attaching and bonding the cathode array on the anode substrate having fluorescent material coated thereon with a desired gap provided between the cathode array and the anode substrate by using a spacer, after step (4).